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# NASA/DoD Aerospace Knowledge Diffusion Research Project

NASA Technical Memorandum 104095

Report Number 10

Summary Report to Phase 3 Academic Library Respondents Including Frequency Distributions



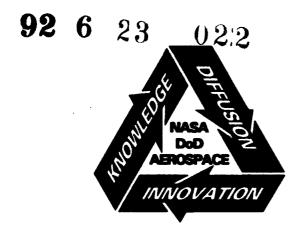
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National Aeronautics and Space Administration

**Department of Defense** 

**INDIANA UNIVERSITY** 

### THE NASA/Dod AEROSPACE KNOWLEDGE DIFFUSION RESEARCH PROJECT

### Report to Phase Three Respondents

### Academic Librarians and Information Specialists

#### Introduction

This project, started in 1989, is designed to explore the diffusion of scientific and technical information (STI) throughout the aerospace community. The increased international competition and cooperation in the industry promises to significantly affect the STI demands of U.S. aerospace engineers and scientists. Therefore, it is important to understand the aerospace knowledge diffusion process itself and its implications at the individual, organizational, national and international levels.

The project is planned in four phases. Phase 1 is designed to study the information-seeking behaviors of U.S. aerospace engineers and scientists. Phase 2 is concerned primarily with the transfer of scientific and technical information in industry and government and the role of librarians and technical information specialists in that transfer. Phase 3, reported in part here, examines the use of STI in the academic aerospace community. Phase 4 will examine knowledge, production, use and transfer of STI among non-U.S. aerospace organizations and aerospace engineers and scientists.

#### Part I

#### **Data Collection Methods**

In Phase 3 of this project, three questionnaires were sent to three groups in the academic aerospace community. The first group was composed of information intermediaries in academic engineering libraries, the second group included faculty in aerospace departments, and the third group was composed of students enrolled in a capstone design course.

The librarians surveyed were information intermediaries at engineering or aerospace libraries at institutions where a capstone design course was funded in 1989-90 by the NASA/University Space Research Association (NASA/USRA) and in universities listed by the American Society of Engineering Education (ASEE) as ABET accredited aerospace programs. Libraries at each institution were called and the name of the librarian in charge of aerospace materials was obtained. This person was mailed the questionnaire. Of the 70 eligible respondents, 68 returned the questionnaire. Data collection began in late April 1990 and continued through May 1990. The results of this study are reported here.

The faculty sample was obtained primarily from institutions with NASA/USRA funded capstone courses in aerospace departments. Also included were some institutions listed as accredited by ASEE. Department chairs and NASA/USRA instructors were called and lists of their faculties were obtained when possible. The list was compared to a list of faculty surveyed for Phase 1 of this project and those who had been surveyed previously were eliminated. Data collection began in mid-April of 1990 and continued through September 1990. Questionnaires were sent to 501 faculty, and 275 faculty responded to the survey.

The student sample included those students enrolled in an NASA/USRA funded undergraduate capstone design course in Spring 1990. Telephone calls and faxes to the course instructors enlisted the participation of the 39 eligible instructors who agreed to distribute the questionnaire. (Some instructors could not participate because they had taught their capstone course during the fall semester or did not have regularly scheduled meetings.) Data were collected during April and May 1990.

There were 640 student respected ents from 29 institutions. The results of the faculty and student studies are reported separately in Report 9 of this series, but are also included here when relevant.

### Description of the Information Centers

Eighteen percent of the libraries surveyed were engineering libraries; 19 percent were engineering/science libraries, and 47 percent were university libraries. Only two percent were departmental libraries. Four percent were aeronautical libraries, six percent were branch libraries and four percent were classified as other. Seventy-nine percent of the libraries were "Superintendent of Documents Depository Libraries."

#### The Librarians

Sixty-four percent of the respondents were women. Seventeen percent had one to five years of professional library experience. Forty-eight percent had been in their current positions five years or less. Eighty-eight percent of the librarians held the MLS. Sixty percent were ALA members and 27 percent were members of ASEE. Forty-one percent were members of SLA.

#### Part II

### The Questionnaire

### Rating of Characteristics of Library

Librarians were asked to rate their libraries on several characteristics. Only 20 percent rated their library high on funding for staff salaries. Staff sizes were highly ranked by 23 percent. More library staffs had science backgrounds than aerospace backgrounds. Forty-two percent ranked their staff as good in the sciences, and only 19 percent ranked them good in aerospace. Twenty-four percent gave good marks for funding of materials and equipment. Fifty-four percent thought funding was good for on-line searches.

The librarians gave high marks to the services they provided to users. Eighty percent of the librarians ranked their library as excellent in supplying requested information. Forty-four percent rated their libraries high in turnaround time and 42 percent gave excellent marks for state-of-the-art user services. However, only 21 percent thought alerting services deserved the high ratings.

# Rating of Library Services (percents)

Characteristics	Excellent		
Staff salaries	19.7		
Staff size	22.8		
Aerospace experience	18.5		
Science background	41.5		
Materials/Equipment	24.2		
Searching on-line	54.6		
Alerting services	21.2		
Information supplied on request	80.3		

Fifty-seven percent of the librarians gave their libraries excellent marks for orientation and instruction. The librarians gave themselves low marks for surveying users' needs (27 percent

excellent) and attending user meetings (18 percent excellent). Eighty-four percent of the libraries provide instruction in engineering information and materials resources.

### **NASA Technical Reports**

The librarians were asked several questions relating to the use of NASA technical reports in the library. Thirty-eight percent reported that NASA technical reports received heavy use. Most libraries (63 percent) receive NASA technical reports directly from NASA and 57 percent get them through the Government Printing Office. (More than one could be marked.) Only 11 percent of the librarians reported that an aeronautical/astronautical engineering department maintained a separate collection of NASA reports.

One important question, asked of respondents in all phases of this project, concerns the influence of several factors on the use of NASA technical reports. Eighty percent of the librarians reported that accessibility is an important factor that influences the use of NASA reports. Relevance was considered an important factor by 81 percent of the librarians. Sixty-three percent reported familiarity or experience with the reports was an important factor in use of NASA technical reports. Technical quality was ranked important by 64 percent. Students and faculty were asked to rate the NASA technical reports on these factors. NASA technical reports did not receive high ratings from students and faculty on the factors which the librarians felt influenced use.

# Factors That Influenced Use of NASA Technical Reports (percents)

#### **Factors**

Accessibility	79.7
Ease of use	49.2
Expense	43.5
Familiarity/experience	62.9
Technical quality	63.7
Comprehensiveness	64.3
Relevance	80.7

# Ratings of NASA Technical Reports (percents)

Factors	Faculty	Students
Accessibility	50.7	36.5
Ease of use	62.1	46.5
Expense	61.6	68.1
Familiarity/experience	57.0	31.7
Technical quality	71.4	67.8
Comprehensiveness	53.6	52.8
Relevance	56.0	54.5



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#### Interaction with NASA

Only 15 percent of the librarians reported that NASA contacted them during the last year concerning the transfer of research findings. Over a third initiated contact with NASA during the past year. When asked to rate NASA's understanding of the part librarians play in meeting the needs of researchers (either students or faculty), the librarians gave NASA low marks. Only 24 percent rated NASA high for its understanding of the librarians' interactions with students, and only 33 percent thought NASA understood well the interaction between librarians and faculty.

The librarians did not rate NASA any higher on their direct understanding of the technical information needs of students and faculty. Twenty-three percent thought NASA devoted extensive effort to understanding students' technical information needs. Only 27 percent thought NASA devoted extensive effort to understanding faculty needs. Few librarians thought NASA devoted much effort to involving the librarians in transferring the results of NASA research to students (13 percent) and faculty (13 percent).

# Librarians' Rating of NASA's Role in Research Dissemination For: (percents)

Factors	Students	Faculty
NASA's understanding of librarians' role	23.7	32.5
NASA's understanding of researchers' needs	22.7	27.3
NASA's efforts to involve librarians in knowledge transfer	12.8	13.0

#### Students, Faculty, and the Library

It is valuable to compare the student and faculty use of the library's resources as reported by the users themselves and as viewed by the librarians. Forty-four percent of the students reported they frequently used the university library, and 45 percent reported frequent use of the departmental or engineering library. Only 12 percent indicated they consulted with the librarians frequently. Fifty-five percent ranked the university library as important in meeting their engineering information needs, and 22 percent ranked the librarians as important in meeting their engineering information needs. Fifty percent of the librarians rated themselves as having extensive knowledge of student needs.

The faculty reported using the library at rates similar to those of the students. Forty-five percent used the university library frequently. However, only 9 percent reported frequent consultation with the librarians. When asked to rate their importance, 65 percent of the faculty rated libraries as important, and 23 percent rated librarians as important. Forty-three percent of the librarians rated themselves as having extensive knowledge of the technical information needs of the faculty. The results indicate a need for more communication between faculty, students, and librarians.

The librarians were asked to evaluate various print and electronic sources in terms of helping students and faculty with their engineering information needs. Students and faculty were asked how often they had used the same sources. (Students and faculty could answer that they "were not familiar" with the source.) Seventy-four percent of librarians felt Applied Science and Technology Index was important but 57 percent of students were not familiar with it. Only ten percent had used the source

more than five times. Thirty-seven percent of the faculty were not familiar with the Index and only 6 percent had used it more than five times. Ninety-three percent of students were not familiar with COMPENDEX while 89 percent of the librarians rated the source as important in satisfying student needs. Seventy percent of the faculty were not familiar with the resource. Clearly, several resources the librarians classify as important are not being used by researchers working without librarian assistance. Researchers are either using other sources or they cannot find available information.

# Importance of Print and Electronic Sources (percents)

	Important to Librarians	Student Uses	Students Not Familiar With Source
COMPENDEX	88.6	1.9	93.1
INSPEC	88.1	0.5	94.2
Engineering Index	86.7	34.3	56.6
Applied Science and Technology Index	73.5	34.1	56.6
NASA STAR	72.8	20.9	70.2
	Important to Librarians	Faculty Uses	Faculty Not Familiar With Source
COMPENDEX	88.6	4.0	69.7
INSPEC	88.1	2.4	72.5
Engineering Index	86.7	41.3	27.8
Applied Science and Technology Index	73 <b>.5</b>	32.2	37.3
NASA STAR	72.8	33.9	31.5

Both the students and the librarians were asked about their use of electronic databases. Fifty-four percent of the librarians reported that all student searches were done through the library staff. Yet only three percent of students said all their searches were done through librarians. Twenty percent of the students claimed they did all their own searches. Forty-one percent of the students said they did not use electronic databases. Nine percent of the faculty said they did all electronic searches themselves. Thirty-four percent of the faculty said they did not use electronic databases. Forty-one percent of the faculty respondents reported they did some or all of their electronic searches through a librarian.

### Library Services

The librarians were asked about several services their libraries provide for students. Forty-five percent reported the library did not offer a library skills course. All libraries provided bibliographic instruction. Almost all offer handouts, library guides, and mediated on-line searching.

Some services available for faculty were not available to students. Only 19 percent of librarians reported that alerting services were provided to students while 50 percent said alerting services were provided for the engineering faculty. However, most services available to faculty were available to the students as well. Eighty-one percent provide document order and delivery to students and 86 percent provide the service for faculty.

# Library Services Provided to: (percents)

\$	Students	Faculty
Alerting services	18.6	50.0
Bibliographic instruction	100.0	82.0
Handouts and library guides	97.0	95.4
In-House STI and routing services	11.3	39.7
Mediated on-line searching	96.9	96.9
Locating sources	97.0	100.0
Identifying documents	97.0	98.5
Acquiring information	97.0	98.5

### Competition to Library Services

Several questions were asked of the librarians about potential competition from other information sources. Most alternate sources were seen to affect faculty library use rather than student use. Only 24 percent of the librarians saw students' personal collections as competition while 86 percent of the librarians saw the faculty's personal collections as competition. Students reported less use of their personal collections and ranked them as less important than did faculty.

# Competition, Reported by Librarians, to Use of Library Resources by: (percents)

Competition	Students	Faculty
The "old boy" network	32.2	77.0
Personal collections	24.2	85.9
Research assistants	25.0	44.1
Department or project libraries	42.6	64.5
Internet/NSFNET	13.6	37.3
On-line access to library catalog	40.3	45.2

# Part III Summary and Comparisons

Phase 3 of the NASA/DoD Aerospace Knowledge Diffusion Research Project was designed in part to discern differences between the perceptions of the users (e.g., faculty and students) of the academic libraries and the librarians who staff them. Some broad patterns have emerged.

First, both students and faculty alike report limited use of electronic databases and other library resources during their information searches. But librarians regard many of these same resources as important to them when answering student and faculty needs. It is likely, then, that when students and faculty do unassisted information searches they are missing important resources for locating relevant STI.

Secondly, some services that might increase student and faculty use of libraries are not available. Nineteen percent of the libraries do not provide a general library tour. Forty-five percent do not have a library skills course. Twenty-two percent do not provide an introduction to engineering information resources and materials. If librarians are able to increase student and faculty awareness

of the library's resources via courses or tours, use of the library's resources might increase dramatically.

### ADDITIONAL INFORMATION ON THIS PROJECT

Phase 1 of this project is concerned primarily with the use and rating of STI by aerospace engineers and scientists. AIAA members were asked to review several information sources, to rate them and to describe the patterns they use to gather the information they need. Analysis of these data is underway.

Phase 2 of this project focuses on the role of industry and government information intermediaries, (librarians) and technical information specialists in the transfer of STI. Intermediaries from government and industry libraries with aerospace collections from across the United States and Canada were asked to evaluate many of the information sources reviewed by the AIAA members. In addition, they provided us with information about how information sources are used in their libraries. Analysis of these data is currently being conducted.

Phase 4 began in Summer 1990 with pilot surveys in Europe and Japan. A study of aerospace engineers and scientists in Britain is underway. Additional surveys in NATO countries and Japan are planned over the next few years.

If you would like additional information about any phase of this study or copies of reports that examine these data in more detail, please contact:

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We welcome your comments and suggestions.

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Survey of Academic Aerospace Libraries 68 Respondents

Which of the following best describes your library?		
Departmental Library	1	
Aeronautical/Astronautical Library	3	
Engineering Library	12	
Engineering/Science Library	13	
Branch Library	4	
University Library	32	
Other	3	

Is your library a Superintendent of Document (SOD)	depository library?
Yes	53
No	14

Does your library provide instruction to students in how to use library resources and services?	Yes	No
	66	2
Is the instruction:		
Required	19	39
Elective	35	24
Non-credit	29	29
Credit	20	37
Part of an engineering course	41	18
Part of another course	34	23
Separate course	19	33

Does your library provide instruction in engineering information resources and materials resources?	Yes	No
	53	10
Is the instruction:		
Required	10	36
Elective	32	13
Non-credit	29	17
Credit	12	35
Part of an engineering course	42	8
Part of another course	24	21
Separate course	9	34

Does your library subscribe to, automatically receive, purchase or otherwise obtain the following?						
	Yes	No				
NASA Technical Reports in Paper	45	18				
NASA Technical Reports in Fiche	61	6				
DoD Technical Reports in Paper	21	37				
DoD Technical Reports in Fiche	36	33				
FAA Technical Reports in Paper	19	34				
FAA Technical Reports in Fiche	27	27				
AGARD Technical Reports in Paper	35	21				
AGARD Technical Reports in Fiche	25	32				
US Aerospace Company Technical Reports	16	41				
US University Technical Reports	30	27				
AIAA Papers in Hard Copy	16	<b>3</b> 9				
AIAA Papers in Fiche	18	38				

Does your library subscribe to, automatically receive, purchase or otherwise obtain these foreign (non-US) technical reports?						
	Yes	No				
British ARC and RAE Reports	14	52				
ESA Reports	10	54				
French ONERA Reports	5	59				
German DFVLR, DLR and MBB Reports	7	57				
Japanese NAL Reports	7	57				
Swedish NAL Reports	5	57				

Does the aeronautical/astronautical engineering department maintain a NASA technical report collection separate from that which is kept in your library?

Yes 6
No 47

Which of the following best describes how your library routinely receives NASA technical reports?					
	Circled				
Directly from NASA	43				
From NTIS	11				
From GPO	39				
Does not receive NASA Technical Reports	3				

Which of the following best characterises the use of the NASA technical reports in your library?							
Heavily Used	2	3	4	Not Used At All	Do Not Have		
12	14	27	12	0	3		

	Yes	No
NASA Technical Reports in Paper	45	18
NASA Technical Reports in Fiche	61	6
DoD Technical Reports in Paper	21	37
DoD Technical Reports in Fiche	36	33
FAA Technical Reports in Paper	19	34
FAA Technical Reports in Fiche	27	27
AGARD Technical Reports in Paper	35	21
AGARD Technical Reports in Fiche	25	32
US Aerospace Company Technical Reports	16	41
US University Technical Reports	30	27
AIAA Papers in Hard Copy	16	39
AIAA Papers in Fiche	18	38

Does your library subscribe to, automatically receive, purchase or otherwise obtain these foreign (non-US) technical reports?						
	Yes	No				
British ARC and RAE Reports	14	52				
ESA Reports	10	54				
French ONERA Reports	5	59				
German DFULR, DLR and MBB Reports	7	57				
Japanese NAL Reports	7	57				
Swedish NAL Reports	5	57				

Does the aeronautical/ast department maintain a N. collection separate from t library?	ASA technical report
Yes No	6

Which of the following describes how your library routinely receives NASA technical reports?				
	Circled			
Directly from NASA	43			
From NTIS	11			
From GPO	39			
Does not receive NASA Technical Reports	3			

Which of the following best characterises the use of the NASA technical reports in your library?							
Heavily Used	2	3	4	Not Used At All	Don't Have		
12	14	27	12	0	3		

As an academic intermediary, how important to you are the following print sources in helping engineering students meet their engineering information needs?

	Very Important 1	2	3	4	Not At All Important 5	Do Not Have
Applied Science & Technology Index	36	14	11	2	1	4
Engineering Index	46	13	4	) 0	0	5
Government Reports Announcement				1	İ	
and Index	24	15	15	4	1	8
International Aerospace Abstracts	24	24	3	5	1	11
NASA SP-7037	2	12	13	9	15	14
NASA SCAN	3	5	5	2	10	37
NASA STAR	31	17	7	7	0	4
Science Citation Index	22	17	9	8	2	9

As an academic intermediary, how important to you are the following electronic sources in helping engineering students meet their engineering information needs?

	Very Important 1	2	3	4	Not At All Important 6	Do Not Have
Aerospace Database	23	13	8	6	2	9
COMPENDEX	45	9	1	2	O	4
DTIC DROLS	3	1	3	) 3	6	42
INSPEC	38	14	2	2	0	3
NASA RECON	12	3	7	2	3	31
NTIS Online	28	18	7	5	0	6
SCISEARCH	18	17	10	11	1	3
Wilson Line Index	9	5	4	13	4	23
BRS including "After Dark"	10	6	2	8	3	30
DIALOG including "Knowledge Index"	37	7	0	2	3	12

Which of the following best represents your library's approach to paying for online search services to engineering students?		· 1	
Not offered	2	Not offered	3
User pays nothing	8	Users do most searches	5
User pays reduced costs	23	Users do half themselves, half with	
User pays all costs	25	intermediary	3
	Í	Users do most searches through	ĺ
	1	intermediary	15
		Users do all searches through intermediary	36

To what extent do you think the following factors influence the use of NASA technical reports in your library by engineering students in your institution?

	Greatly Influenced 1	2	3	4	Not Influenced 5
Accessibility	28	18	11	5	3
Ease of Use	12	13	15	9	10
Expense	9	10	6	10	25
Familiarity or Experience	14	18	19	9	3
Technical Quality or Reliability	11	21	16	4	2
Comprehensiveness	11	18	19	9	2
Relevance	20	21	15	2	2
Physical Proximity	15	21	14	6	7
Skill in Use	12	16	22	6	5
Timeliness	13	14	19	6	4

To what extent do you think the following factors influence the use of NASA technical reports in your library by engineering faculty in your institution?

	Greatly Influenced 1	2	3	4	Not Influenced 5
Accessibility	28	11	15	5	4
Ease of Use	14	13	6	13	13
Expense	7	7	10	12	26
Familiarity or Experience	23	21	14	2	2
Technical Quality or Reliability	23	14	12	2	2
Comprehensiveness	15	15	17	4	2
Relevance	25	20	9	2	l 0
Physical Proximity	14	18	14	6	8
Skill in Use	7	15	18	9	8
Timeliness	15	16	15	5	4

As an academic intermediary, how frequently this past year did you use:							
	Frequently 1	2	3	4	Never 5	Do Not Have	
Electronic Databases	37	12	7	5	3	3	
Laser/Video Disc/CD-ROM	37	8	2	6	0	13	
Desktop/Electronic Publishing	5	5	5	3	23	24	
Electronic Bulletin Boards	7	5	9	14	18	12	
Electronic Mail	27	6	8	4	12	9	
Electronic Networks	18	4	9	12	11	12	
FAX/TELEX	10	12	11	19	4	10	

STAR	Strongly Agree	2	3		Strongly Disagree
SIAR		<del> </del>	ļ	<del> </del>	<del>                                     </del>
The coverage is adequate	34	20	5	0	0
The category scheme is adequate	26	16	13	1	0
The announcements are current	22	18	11	2	0
The abstracts are adequate	33	19	7	0	0
IAA					
The coverage is adequate	33	13	4	0	0
The category scheme is adequate	24	111	12	Ì	i
The announcements are current	21	14	9	2	1 0
The abstracts are adequate	31	11	7	0	0
SCAN					
The announcements are current	6	7	1	0	0
SCAN is easy to use	8	3	2	i	l i
SCAN is timely	7	4	2	1	i
The print quality is adequate	5	4	6	1	0
RECON					
The coverage is adequate	13	6	2	0	0
RECON is easy to use	5	5	l i	1 4	ı ,
The RECON database is current	8	7	li	2	1 0
Searches on RECON meet users	5	10	3	l ī	l i
research requirements		]		_	1 -

	Very Likely 1	2	3	4	Not at All Likely 5
STAR on CD-ROM	42	8	6	1	3
Full Text of NASA Report on CD-ROM	22	12	8	9	8
Computer Program Listings on CD-ROM	13	7	12	10	111
Numerical/Factual Data on CD-ROM	19	13	11	5	8
Images on CD-ROM	9	9	14	9	111
RECON Front-end	14	6	7	3	8
Online System for NASA Technical Reports	20	13	11	8	6

Your NASA Technical Report Collection	Yes	No	No Answer
Card Catalog	29	20	16
Printed Directories	65	0	0
OPAC	24	25	16
COMCAT	2	39	24
Author	48	5	12
Author Title	48 43	5 7	12 15
		5 7 7	
Title	43	5 7 7 3	15
Title Report Number	<b>43</b> 53	5 7 7 3 3	15 5
Title Report Number Subject	43 53 48	5 7 7 3 3	15 5 14

Which of the following describes how physical access to your NASA/NACA technical reports (excluding NASA special publications) is provided?					
NASA	Circled	NACA	Circled		
Open Closed	55 12	Open Closed	45 13		

	NASA		NACA	
	Yes	No	Yes	No
Individually cataloged	22	27	10	32
Arranged by report numbers, by report series	52	6	50	4
Housed with the engineering materials	15	34	12	31
Housed with the government documents collection	32	20	24	22
Kept in storage	11	33	15	29

Which of the following characterises why your library would consider <u>discontinuing</u> automatically receiving NASA technical reports?					
	Yes	No			
Automatic distribution (subscription) is too costly	33	30			
NASA technical reports duplicate other sources of needed information	5	54			
The information contained in NASA technical reports is not timely	2	58			
Not all the reports received were useful	8	52			
Problems with the distribution and receipt of NASA reports	14	46			
NASA contract/grant completed; no longer needed NASA reports	2	57			

Approximately how many times in	the past six mo	onths has your	library provid	led the following	g services:	
For engineering students	None	1 - 5 Times	6 - 10 Times	11 or more Times	Lots/ Many	Don't Provide
General library tour	3	14	12	15	1	11
Library presentation as part		1		[		
of engineering course	3	21	12	11	0	10
Library skills course	9	12	3	4	4	28
Tour of engineering library	4	16	7	9	0	19
Introduction to engineering information resources and materials	4	17	10	9	3	13
For engineering faculty						
General library tour	12	14	2	2	1	11
Library presentation as part			-		_	
of engineering course	16	J 10	1	1	0	10
Library skills course	14	1	ا آ	0	2	28
Tour of engineering library	8	12	2	1	Õ	19
Introduction to engineering			_		-	]
information resources		ļ	1			]
and materials	14	9	2	0	1	13

How does your library generally learn about user needs?				
	Yes	No		
Requests received	67	0		
Curriculum guides	34	29		
In-house publications	26	34		
Survey questionnaires	18	40		
One-on-one interviews	66	0		
Library staff meetings	49	10		

In the past six months how often did your library staff attend meetings of research teams and/or was otherwise involved in research projects?						
Frequently 1	2	3	4	Never 5		
2	2	10	20	31		

Percent of your t	Percent of your time devoted to aerospace information activities:					
0%	1-10%	11-50%	100%			
1	51	10	1			

Gender:		US Citisen		
Female	42	Yes	64	
Male	24	No	1	

Years of professional library experience:		Years in present position:		
1 to 5 Years	11	1 to 5 Years	31	
6 to 10 Years	9	6 to 10 Years	13	
11 to 15 Years	11	11 to 15 Years	/ 9	
16 to 20 Years	18	16 to 20 Years	9	
21 to 25 Years	10	21 or More Years	3	
26 or More Years	7	1		

Education:			
Bachelor's Degree	54	мва	2
MLS	60	J.D.	1 1
Master's Degree	21	Ph.D.	2

Professional (national) membership:				
ALA	41	SLA	28	
ASEE	18	Other	8	
ASIS	3	None	5	

As an academic intermediary:					
How would you rate NASA's understanding of the role you perform at your institution in meeting the technical information needs of:	Extensive 1	2	3	4	None 5
Engineering students Engineering faculty	3 4	6 9	12 13	13 10	4
How much effort does it appear that NASA devotes to understanding the technical information needs at your institution of:					
Engineering students Engineering faculty	3 4	7 8	8 14	15 13	11 5
How much effort do you think NASA devotes to involving you in transferring the results of NASA research at your institution to:					
Engineering students Engineering faculty	3 4	3 2	9 10	16 16	16 14
How would you rate your knowledge of the technical information needs at your institution of:					
Engineering students Engineering faculty	11 7	22 21	23 24	9 11	1 2
How active are you in transferring NASA produced knowledge at your institution to:	Very Active 1	2	3	4	Very Passive 5
Engineering students Engineering faculty	7 6	16 18	20 16	12 15	9

Concerning transferrring the results of NASA research, how many times this past year:					
	None	1 - 5	6 - 10	11 or More	Lots/Many
Have you contacted NASA personnel	40	16	4	1	1
Have NASA personnel contacted you	51	8	1	0	0

As an academic intermediary, wh knowledge to the engineering stu			"actively" transfer	NASA produced
	Stud	Students		ulty
	Yes	No	Yes	No
Screening information Interpreting data	18 8	47 57	22 6	42 57

	Excellent 1	2	3	4	Poor 5	No Opinion
Funding						
Staff salaries	3	10	21	18	13	3
Materials/equipment	1	15	19	21	10	2
Searching online	10	26	13	11	6	2
CD-ROM	10	14	17	12	9	6
Innovation	4	22	23	10	5	4
Staffing						
Staff size	5	10	28	12	11	2
Aerospace experience	5	7	17	20	15	4
Science background	8	19	21	13	4	3
Services to users						
Information supplied on						
request	24	29	11	2	0	2
Alerting	7	7	18	15	16	5
Turnaround time	9	20	23	11	2	3
State-of-the-art	5	23	17	9	8	6
Interaction with users						
User needs surveyed	4	14	16	19	10	5
User meetings attended	2	9	17	18	12	10
Orientation/instruction	7	30	18	9	1	3

	Greatly Influenced 1	2	3	4	Not Influenced 5
Accessibility	36	15	7	5	1
Ease of Use	13	17	16	9	6
Expense	18	9	9	10	16
Familiarity or Experience	21	18	17	6	0
Technical Quality or Reliability	14	21	16	1	3
Comprehensiveness	14	22	10	8	2
Relevance	25	21	10	1	0
Physical Proximity	23	18	9	7	4
Skill in Use	14	17	20	3	3
Timeliness	17	16	16	5	3

What do you see as "competition" for the engineering faculty?	library in provi	ding information	on to students	and
	Stud	lents	Faculty	
	Yes	No	Yes	No
The "old boy" network	19	40 47	47 55	14 9
Personal collections	15	- 11	) 55	9
Other units within the organisation:	T		<del></del>	
Research assistants attached to projects  Department or project "libraries" not a	15	45	26	33
part of your library	26	35	40	22
Direct user access to outside information sources:				
Information brokers	2	57	12	49
Publishers	4	57	20	42
Online vendors	6	55	17	46
NASA/STIF	4	57	12	49
NTIS	6	55	12	49
Direct use of national computer communications netw	orks:		г	<del></del>
ARPANET	4	56	14	46
Internet/NSFNET	8	51	22	37
Direct use of regional computer communications networks	9	54	22	40
Direct use of campus network (local area network):	<u></u>		<del>!</del>	<u> </u>
Online access to your library catalog	25	37	28	34
Online access to other campus libraries	11	50	14	47
Wordprocessing for transmission of text:				
Office facsimile transmission	8	52	23	37
Electronic mail	10	49	21	40
Manuscript preparation and delivery	7	50	14	43
Database creation by users:		<u> </u>	<del>,</del>	
Information collection, storage and use	10	52	21	41
Downloading to personal files	14	49	25	38
Electronic transmission of data	12	50	21	41

	Stud	lents	Faculty		
	Yes	No	Yes	No	
Alerting services	11	48	31	31	
Bibliographic instruction	66	0	50	11	
Document order and delivery	51	12	56	9	
Electronic reference	50	15	51	14	
Handouts and library guides	64	2	62	3	
In-house SDI and routing services	7	55	25	38	
Mediated online searching	63	2	63	2	
NASA SCAN	10	52	15	48	

	Stud	ents	Pact	ılty
Professional time-saving assistance in:	Yes	No	Yes	No
Locating sources	64	2	66	0
Identifying documents	64	2	65	1
Acquiring information	64	2	65	1
Expert help in learning/using information	55	9	53	10
Database development	8	53	10	50
Downloading to diskettes	47	20	48	18
Remote online access to library catalog	56	12	56	11
CD-ROM workstation(s) in library	53	14	52	14
Cooperative cost-sharing services:				
Group contract for online services	17	47	16	46
Coordinated access to networks	14	48	15	48
Acquisition of most-used databases for searching	online through	campus compu	ter facilities:	
Aerospace database	9	52	9	51
NTIS online	16	48	16	47
Federal Research in Progress (FEDRIP)	7	54	7	52
Energy database	8	54	8	53
Acquisition or development of user-friendly from	t-end systems fo	r searching mo	st-used datab	ases onli
Library online catalog searching	40	25	39	23
Gateway searching of multiple databases	12	52	12	49

# INTERMEDIARY STUDY

Approximately how many times in the past six months has your library utilized the following sources to obtain NASA technical reports not in your collection?

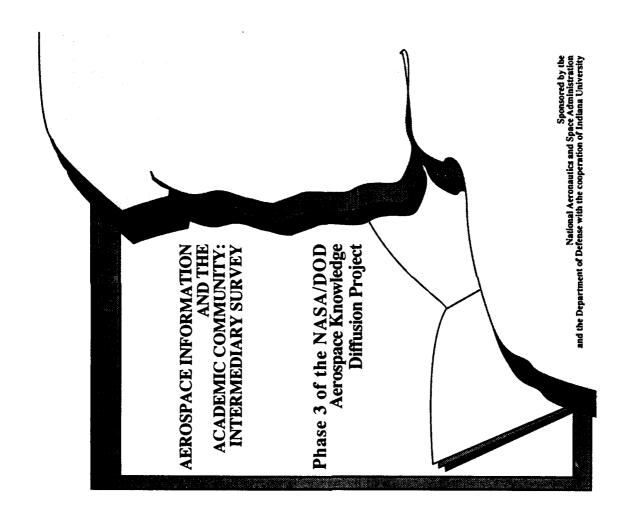
Times in the past six months	None	1 - 10	11 - 20	21 - 50	More than 50	Don't Know
NTIS	6	24	7	7	3	14
NASA STIF	21	7	0	2	0	17
DTIC	19	9	1	1	0	17
NASA field center library	21	5	0	2	1	22
NASA author	23	1	0	0	0	22
Another university library	10	18	6	2	0	18
Aerospace industry library	18	7	3	1	0	18
DDS or broker	23	2	0	1	0	19

Approximately how many times in the past six months has a NASA technical report been requested by one of your patrons but could not be obtained from your library for each of the following reasons?

Times in the past six months	None	1 - 10	11-20	21-50	More than 50	Don't Know
Your library did not own the report	2	14	11	8	7	21
Your library owned the report but it was missing	10	21	2	1	0	25
The report was in a STAR category not received by your library	11	3	1	2	0	34
The report was distributed in fiche only and your library received paper copy in that STAR category	20	1	0	0	0	27
The report was distributed in paper only and your library receives fiche copy in that STAR category	13	2	O	0	0	34
The report was listed in STAR but was not automatically distributed by NASA	6	14	2	8	1	27
The report was in a STAR category you automatically receive but you never received it	10	5	0	1	2	34
The report was referenced as a NASA publication but was not in the NASA system	12	14	2	0	0	29
The report was a classified, restricted or limited distribution document	13	14	0	0	O	28
The report was available only from the NASA center of origin	14	6	0	0	0	34
The report was available only from the author or technical monitor	13	4	0	0	0	35
Insufficient bibliographic information, did not know where or how to obtain the report	9	19	0	0	0	28

As an academic intermediary, approx	ximately how	many times in	the past six m	onths have yo	u used the followin	ıg:
Times in the past six months	None	1 - 25	26 - 50	51-100	More than 100	Do Not Have
Print Sources:						
Applied Science and Technology Index	4	11	12	9	24	5
Engineering Index	2	16	11	9	22	7
Government Reports Announcement and Index	1	22	11	8	14	10
International Aerospace Abstracts	5	24	9	3	11	13
NASA SP-7037	25	17	1	1	2	19
NASA SCAN	19	3	1	1	2	37
NASA STAR	1	26	12	5	14	6
Science Citation Index	7	21	8	2	6	17
As an academic intermediary, approx	ximately how	many times in	the past six m	onths have yo	u used the followin	<b>'8</b> :
Aerospace Database	14	31	0	٥		
COMPENDEX	7	33	8	ľ	7	å
DTIC DROLS	14	4	١ ٥	ĺň	1 ;	39
INSPEC	7	32	l ii	l ĭ	1 1	1 3
NASA RECON	13	10	2	1 6	3	27
NTIS Online	7	33	8	١٠٥	5	6
SCISEARCH	12	34	3	2	ا ŏ	5
Wilson Line Index	14	6	1	2	٥	26
BRS including "After Dark"	18	5	2	2	l i	28
DIALOG including "Knowledge Index"	9	12	7	8	6	11

Survey of Academic Aerospace Libraries Survey Questionnaire



hear data will provide us with some background about your library.	<ol><li>Does the acronautical/astronautical engineering department maintain a NASA technical report collection separate from that which is keet in your library? (Circle number)</li></ol>
Which of the following best describes your library? (Circle number)	
Departmental library     Aeronautical/autronautical library	2 No 3 Don't know
3. Engineering library	
S. Brazch Library	
6. University (main) library	i nese data will neip us understand the use of NASA (ecimical reports in your library.
). Other (specify)	<ol><li>Which of the following best describes how your hibrary routinely receives NASA technical reports? (Circle numbers)</li></ol>
. Is your library a Superintendent of Document (SOD) depository library? (Circle number)	
Ye.	2 From NTIS
2 No 3 Dan's Larow	
hese data will help as understand how your library deals with technical reports.	7. Which of the following best characterizes the use of the NASA technical reports in your library? (Circle number)
Does your library subscribe to, automatically receive, purchase, or otherwise obtain the following?  (Circle numbers)	
	Heavily Not Used Don't NASA Technical
s No	At All Know
NACA tacknical security in fiche	
DOD technical resorts in fiche	2 3 4 5 7 9 - onpage 6
2	
7	8. How is bibliographic access provided to your NASA technical report collection? (Circle all that apply)
7	Yes No
7	
	Printed directories (e.g., NASA STAR)
	2
Does your library subscribe to, automatically receive, purchase, or otherwise obtain the following foreign	9. How is bibliographic access provided to the NASA technical reports in your library? (Circle all that apply)
(non-U.S.) technical reports? (Circle numbers)  Yes  No	2
British ARC and RAE reports	
	Subject 1 2
Special NA reports	Contract/grant number
Other (specify)	Net Worlds Consolidation Control Contr
-	•

10. Which of the following describes how physical access to your NASA/NACA technical report collection is provided? (Circle all that apply)	our NASA/NACA technical report collection	13. Approximately how many times in the past six months has a NASA technical report been requested by one of your patrons but could not be obtained from your library for each of the following reasons?	t been requested by one of easons?
NASA	NACA	Times in the Past	Don't
1 Open	1 Open	SIX MONLIS	Now (
2 Closed	2 Closed	Your library did not own the report	0
3 Other (specify)	3 Other (specify)	Your library owned the report but it was missing or could not be found	C
<ol> <li>Which of the following describes how the NASA/NACA technical reports in your library, (excluding NASA special publications) are arranged? (Circle all that apply)</li> </ol>	echnical reports in your library, (excluding NASA	The report was in a STAR category not received by your library	0
NASA Yes No	NACA Yes No	The report was distributed in fiche only and your library received paper copy in that STAR category	C
1 Individually cataloged	1 Individually cataloged1 2	The report was distributed in paper only and your library receives fiche copy in that STAR category	С
2 Arranged by report numbers, by report series	2 Arranged by report numbers, by report series	The report was listed in STAR but was not automatically distributed by NASA	0
3 Housed with the engineering	3 Housed with the engineering materials	The report was in a STAR category you automatically receive but you never received it	0
		The report was referenced as a NASA publication but was not in the NASA system	C
documents collection	documents collection 2  5 Kept in storage 2	The report was a classified, restricted, or limited distribution document	0
6 Other (specify)	6 Other (specify)	The report was available only from the NASA center of origin	С
		The report was available only from the author or technical monitor	С
<ol> <li>Approximately now many times in the past six months has your notary utilized the following sources to occarn NASA technical reports not in your collection?</li> </ol>	s your normy numzed the following sources to octain	Insufficient bibliographic information.	
Tin Past 2	Times in the Don't Past Six Months Know()	did not know where or how to obtain the report	0
SLLN		Other (specify)	
NASA STIF	)		
DTIC NASA field center library	::::	<ol> <li>Which of the following characterizes why your library would consider discontinuing automatically receiving NASA technical reports? (Circle numbers)</li> </ol>	ng automatically receiving
NASA author	:C	Yes	
Another university library	33		
DDS or broker	) 		
Other (specify)		sources of needed information	

m

NASA Technical Reports

	Yes	Š
The information contained in NASA technical reports is not timely	-	2
Not all the reports received were useful	1	2
Problems with the distribution and receipt of NASA reports	1	7
NASA contract/grant completed; no longer needed NASA reports	1	7
Other (specify)		

 To what extent do you think the following factors influence the use of the NASA technical reports in your library by engineering students in your institution? (Circle numbers)

Greatly Influenced	**			Not Influenced	Don't Know
ACCESSIBILITY: the case of	F	F	$\vdash$	Γ	
getting to the information source	7	٣	4	S	٥
EASE OF USE: the ease of comprehending or utilizing the information	7	۳	4	×	6
E: low cost in on sources	8		4	٧n	٥
OR EXPERIENCE: prior	7	en	4	'n	٥
TEAL QUALITY OR RELIABILITY: the information was expected to be the best in terms of quality, accuracy and reliability	7	ы	4	ď	6
COMPREHENSIVENESS: the expectation the information source would provide broad coverage of the available knowledge	7	6	.4	'n	•
RELEVANCE: the expectation that a high percentage of the information retrieved from the source would be used	~		4	85	٥
PHYSKCAL PROXIMITY: the distance to the information source	8	e	4	٠,	6
SKILL IN USE: the level of skill or skill mastery required to use the information source!	7	e	4	'n	6
TIMELINESS: the time allocated or available to produce a solution	7		4	'n	٥

16. To what extent do you think the following factors influence the use of the NASA technical reports in your library by engineering faculty in your institution? (Circle numbers)

Greatly Influenced				Not Influenced	Don't Know
ACCESSIBILITY: the ease of	F	-	-	Γ	
geting to the information source	7	m	4	S	•
EASE OF USE: the ease of comprehending or utilizing the information	7	٣	4	v,	٥
EXPENSE: low cost in comparison to other information sources	7	60	4	٧٦	٥
FAMILIARITY OR EXPERIENCE: prior knowledge or previous use of the information source \}	7	ы	4	<b>~</b> ;	٥
TECHNICAL QUALITY OR RELIABILITY: the information was expected to be the best in terms of quality, accuracy and reliability	2	e	4	'n	•
COMPREHENSIVENESS: the expectation the information source would provide broad coverage of the available knowledge	7	æ	4	8	۰
RELEVANCE: the expectation that a high percentage of the information retrieved from the source would be used	7	m	4	s	۰
PHYSICAL PROXIMITY: the distance to the information source	7	ю	4	٠,	6
SKILL IN USE: the level of skill or skill mastery required to use the information source!	7	۳	4	<b>~</b>	٥
TIMELINESS: the time allocated or available to produce a solution	7	6	4	w	٠

These data will help us determine the use and importance of selected information sources and products.

17. As an academic intermediary, approximately how many times in the past six months have you used the following print sources in helping engineering students meet their engineering information needs?

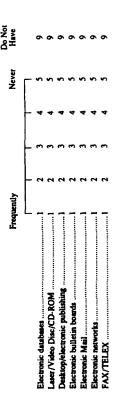
PRINT SOURCES	Times in Past Six Months	Do Not Have (
Applied Science and Technology Index		C:
Engineering Index		С;
Covernment Reports Announcement and Index		<b>C</b> (
International Acrospace abstracts		2

PRINT SOURCES	Times in Past Six Months	Do Not Have (	<u>Ş</u> ğ		<ol> <li>As an academic intermediary, how important to you are the following electronic sources in helping engineering students meet their engineering information needs? (Circle numbers)</li> </ol>	o you are the follow eds? (Circle number	ving electro rs)	mic sourc	es in helping	engineering
NASA SP-7037 (Aeronautical Engineering: A Continuing Bibliography With Indexes)		<u>.</u>	-		ONLINE (ELECTRONIC) DATABASES	Very Important			Not at all Important	Do Not Have
NASA SCAN NASA STAR		22	~ ~				-	}	Γ	
Science Citation index		~	_		Aerospace Database	1 2	6	4	S	6
					COMPENDEX	1 2	٣	4	٠,	6
					DTIC DROLS	1 2	3	4	s	٥
18. As an academic intermediary, approximately hor	w many times in the pas	t six months have	you used t	he following	INSPEC	1 2	٣	4	S	o
electronic sources in helping engineering students meet their engineering information needs?	ents meet their engineeri	g information nee	Ġ,		NASA RECON	_	9	4	S	6
					NTIS Online	1 2	33	4	•	6
ONLINE (ELECTRONIC)	Times in Past	2	Do Not		SCISEARCH	_	3	4	\$	•
DATABASES	Six Months	Have	Have (		Wison Line Index	1 2	٣	4	\$	6
					BRS including "After Dark"	_	٣	4	5	6
Aerospace Database		<u> </u>	_		DIALOG including "Knowledge Index"	1 2	m	4	s	œ
COMPENDEX		<u> </u>	^							
DTIC DROLS		~	_							
INSPEC		_	_		These data will help us determine the use of information technology.	mation technology	÷			
NASA RECON		_	_							
NTIS Online		_	_		21. Which of the following best represents your library's approach to paying for online search services to	brary's approach to	paying for	online se	uch services	9
SCISEARCH		•	_		engineering students? (Cucle only one number)	_				
Wilson Line Index		•	_		1 Not offered					
BRS including "After Dark"		_	_				1	1		
DIALOG including "Knowledge Index"		_	_		<ol> <li>User pays nothing for service, lightly or engineering department absorbs all costs</li> </ol>	gmeenng departme	STILL BLOODING	900		
					3 User pays reduced cost, library or engineering department absorbs some of the costs	ring department abs	orbs some	of the cos	2	
					4 User pays all costs					
19. As an academic intermediary, how important to you are the following print sources in helping engineering students meet their engineering information needs? (Circle numbers)	to you are the following   seds? (Circle numbers)	print sources in he	lping engi	necring	5 Other (specify)					
•	Verv	ž	Not at all	Do Not				-	. (1)	,
PRINT SOURCES	Important	E	_	Have	22. Which of the following best characterizes your library's approach to providing online (electronic) search services to engineering students? (Circle only one number)	r iibrary's approach ber)	n broad on	g online	(electronic) a	carch services
A market and a second of the s	- ,		۲,	•	1 Not offered					
Springering Index			, •	. •	2 Users do all searches					
Chvermen Perort Amaintement Index		. 4	, <b>v</b> n	. 0						
Second Second Assessed Seconds		4		. •	3 Users do most searches					
		,	,		4 Users do half of the searches by themselves and half through an intermediary	s and half through a	ın intermed	iary		
A Continuing Bibliography With Indexes)		3 4	2	•	5 Users do most searches through an intermediary	diary				
NASA SCAN		4	<b>'</b>	•	A Heart do all searches through an intermedian	2				
NASA STAR	1 2	4	S	6		ì				
Science Citation Index		3 4	S	٥	7 Other (specify)					

23. To what extent do you think the following factors influence the use of the NASA technical reports in your Mbrary? (Circle numbers)

Greatly Influenced	70			Not Influenced	Don't Know
ACCESSIBILITY: the case of geting to the information source	- ~		4	۲,	ø
EASE OF USE: the ease of comprehending or utilizing the information	7	e	4	'n	٥
EXPENSE: low cost in comparison to other information sources	7	۳	4	'n	٥
FAMILIARITY OR EXPERIENCE: prior knowledge or previous use of the information source 1	7	m	4	'n	6
TECHNICAL QUALITY OR RELIABILITY: the information was expected to be the best in terms of quality, accuracy and reliability	7		4	S	٥
COMPREHENSIVENESS: the expectation the information source would provide broad coverage of the available knowledge	7	6	4	'n	٥
RELEVANCE: the expectation that a high percentage of the information retrieved from the source would be used	7		4	'n	o.
PHYSICAL PROXIMITY: the distance to the information source	7	6	4	٧c	•
SKILL IN USE: the level of skill or skill mastery required to use the information source	7		4	~	6
TIMELINESS: the time allocated or available to produce a solution	7	3	4	٠,	٥

24. As an academic intermediary how frequently this past year did you use the following? (Circle numbers)



25. As an academic intermediary, please indicate how strongly you agree or disagree with each of the following statements concerning the following bibliographic products. (Circle numbers)

Don't Know	0000	Don't Know	<b>0000</b>	Know Know 9 9 9	Don't Know	000 0
Strongly Disagree	N N N N	Strongly Disagree	_ ~~~	Strongly Disagree 5 5 5 5	Strongly Disagree	- x x x
-	4444		- 4444	- 4444		-444 4
-	m m m m		_ ოოოო	_ ოოოო		
-	0000		- 4444	- 4444		- 444 4
Strongly Agree	About STAR The coverage is adequate The category scheme is adequate The autouncements are current The abstracts are adequate	Strongly Agree	About IAA The coverage is adequate The category scheme is adequate The abstracts are adequate	About SCAN The announcements are current SCAN is easy to use	Strongly Agree	Abour RECON The coverage is adequate The coverage is used to use The RECON is easy to use The RECON database is current Searches on RECON meet users research requirements

26. As an academic intermediary, how likely would you be to use the following if they were provided in	how likely would you b	e to use i	he followin	g if they v	ere provided	.5	Library Services		
	Very Likely	<del>ک</del> ے۔ح			Not at All Likely	Don't Know	STUDENTS	FACULTY	Don't Provide (J
STAP or CL BOM	L	[		4	۲~	o	Library skills course		0
Full text of NASA report on CD-ROM	CD-ROM 1	. ~	. 6	4	, vo	. 6	Tour of engineering library		0
Computer program listings on CD-ROM	CD-ROM1	7		4	S.	<b>o</b>	Introduction to engineering		
Numerical/Factual data on CD-ROM	S-ROM	~ .		4	vo v	ο (	information resources and materials		0
Images (photographs) CD-ROM		.,	m (	4 -	n 4	<b>.</b>			
Online system (full text and graphics)	raphics)	•		<b>†</b>	n	•	31. How does your library generally learn about user needs? (Circle numbers)	numbers)	
for NASA technical reports	1	2	3	4	5	•	Yes	Š	
								2	
27. What barriers, if any, would hinder your library's adoption of the electronic information products listed in	inder your library's ado	ption of t	he electroni	ic informa	ion products	listed in		~ ~	
	•						3 In-house publications	7 (	
-							5 One-on-one interviews	1 7	
2								7	
3								7	
							8 Other (specify)	2	
28. What information products or services, if any, should NASA discontinue? (Please list)	services, if any, should	NASA d	scontinue?	(Please li	<del>-</del>		<ol> <li>In the past six months how often did your library staff attend meetings of research teams and/or was otherwise involved in research projects? (Circle number)</li> </ol>	neaings of resea	rch teams and/or was otherwise
2							Frequently		Never
3									۲
29. What new information products or services, if any, should NASA consider offering? (Please list)	ts or services, if any, sh	AN Pino	A consider	r offering?	(Please list)		3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	- 4	- <b>v</b> 1
1							33. Which of the following services does your library provide to engineering students and faculty? (Circle numbers)	gineering studer	its and faculty? (Circle numbers)
2									
3							STUDENTS	ATS.	FACULTY
These data will help us determine the role that academic intermediaries play in providing information and	s the role that academi	c interm	edlarles pt	ay in prov	iding inform	pagon and	Yes Alerting services	% c .	Yes No
information services to engineering students and faculty.	ng students and facult	<u>.</u>					Bibliographic instruction	<b>~</b> (	7 7
30. Approximately how many times in the past six months has your library provided the following services for	es in the past six mont	bs has yo	ur library p	rovided th	e following	ervices for	Document order and delivery	7 6	7 7
engineering students and fact	lty?	٥	AH 111743	>	Dom't		Handous & library guides	. 61	
;	SIODE	2	LACOLI	-	riovide (🗸		In-house SDI and routing services	, 2	7 6
General library tour					0		NASA SCAN	<b>.</b> 2	2
Library presentation as part of engineering course		ì			0		Other (specify)	7	1 2
		=					12		

34. Which of the following services does your library provide to engineering students and faculty? (Circle numbers)

5	STUDENTS	FACULTY	ורדץ	
Yes	ž	Yes	×2	:
Professional time-saving assistance in			,	The "old boy" network
Locating sources	~	-	7	Personal collections
Identifying documents	7	_	7	
Acquiring information	7	_	2	Other units within the organization
•				Research assistants attached to projects1
Expert help in learning Assing information	7	_	7	Department or Project "libraries"
Detehase develorment	7	_	7	months and of the same
Douglas to disheles	2	_	2	Other (specific)
Permote conline accrete to library catalog	7	-	7	Office (Special)
CD/ROM workstation(s) in library	. 7		2	
				Direct user access to outside information sources
Cooperative cost sharing services	,	•	•	Information brokers
Group contract for online services	7		70	Publishers
Coordinated access to networks	7		7 (	Online vendors
Other (specify)	7	-	7	NASA/STIF
A married and a second database and an activities a				NTIS
Addustion of incitional districts, for searching				Other (specify)
Aerosnace database	7	-	7	
NTIS online	7	-	2	Direct use of m. ional computer
Federal Research in Progress (FEDRIP)	7		7	communications networks
Energy database1	7	-	7	APRANET
Other (specify)	7	_	2	Internet/NSFNET
has send all said access to send and send access to				Other (specify)
Acquisition of development of the distance online				
Systems for sometimes and a constraint	,	,	7	
	۰,	-	,	Direct use of regional computer
Cateway sentenng of munipe catabases	4 6		. 7	communications networks
Caner (special)	•	•	1	
Other imposative services (specify)				Direct use of campus network (local area network)
				Ching access to your notary catalog

35. Does your library provide instruction to students in how to use library resources and services? (Citcle numbers)  2 No —— Go to Q36	ź	<b>?</b> 0000	1000
<ol> <li>Does your library provide instruction to students in 1 Yes</li> </ol>	Is the instruction? (Circle numbers)	1 Required 2 Elective	5 Part of an engineering course  6 Part of another course  7 Separate course  8 Other (specify)

13

36. What do you see as "competition" for the engineering library in providing information services to students and faculty? (Circle numbers)

FACULTY	Yes No	11	1 1 2	11111	2 2 2	1 2	2 2 2 2		-
STUDENTS	ž	77	0 00	000000	888	7	444	888	,
STUI	Yes	The "old boy" network	Other units within the organization Research assistants attached to projects	Direct user access to outside information sources Information brokers	Direct use of n. ional computer communications networks APRANET Internet/NSFNET Other (specify)	Direct use of regional computer communications networks	Direct use of campus network (local area network) Online access to your library catalog	Wordprocessing for transmission of text Office facsimile transmission	Database creation by users

37. Overall, how would yourate the following characteristics of your library's information services? (Circle numbers)

	Excellent	_			Poor	No Opinion
Funding		-	-	}	Γ	
Staff salaries	11	7	m	4	•	ō
Materials/equipment	1	~	9	4	S	6
Searching online	1	7		4	٠,	6
CD/ROM		7	•	4	~	6
Innovation		7		4	S	6
Other (specify)		7	6	4	S	0
Staffing	Ĺ	-	-	-	Γ	
Staff size	1	7	3	4	~	6
Aerospace experience	I	7		4	S	•
Science background	1	7	٣	4	S	6
	· [				[	
Services to users	_	-	-	-	_	
Information supplied on request	1	7		4	Š	•
Alerting	1	7	٣	4	Ś	6
Turnaround time	T	7	~	4	S	6
State-of-the-art	1	7	"	4	٠,	6
Other (specify)	-	7	6	4	S	6
:		-	-		ſ	
Interaction with users	•	-		-	-	
User needs surveyed	l	7	~	4	Š	6
User meetings attended	I	~	~	4	S	6
Orientation/instruction	_	7	m	4	٧.	o

38. Does your library provide instruction in engineering information resources and materials resources?

(Circle number)

1 Yes

2 No — Co to Q39

Yes	2 No
Is the instruction? (Circle numbers)	,
Yes	8
1 Required	2
2 Elective	2
3 Non-credit1	2
4 Credit	2
5 Part of an engineering course	7
6 Part of another course	2
7 Separate course	2
8 Other (specify)	

These data will help us understand the interface between academic librarians as information intermediaries and NASA as a knowledge producer.

39. As an academic intermediary, how would you rate NASA's understanding of the role you perform in meeting the technical information needs of engineering students and faculty at your institution? (Circle number)

2	Know	٥
	None	۲,
LTY		- 4
FACULTY		- 6
	ي	- 8
	Extensive	L_
2	Know	٥
	None	۲ م
STA		4
STUDENTS		۳
S	ņ	- ~
	Extensiv	L

40. As an academic intermediary, how much effort does it appear that NASA devotes to understanding the technical information needs of engineering students and faculty at your institution? (Circle number)

FACULTY	Extensive	2 3 4 5
į	Knew	Φ
STUDENTS	None	3 4 5
	Extensive	

Don't Know 41. As an academic intermediary, how much effort do you think. NASA devotes to Involving you in transferring the results of NASA research to the engineering students and faculty at your institution? (Circle number)

ć	Know	٥
	None	۲۳
ĽΙ		4
ACULTY		۳ -
ш,		- 7
	Extensiv	L_
į	Know	٥
	None	۲~
NTS		4
STUDENTS		- m
જ		- ~
	Extensive	L_

42. As an academic intermediary, what steps or actions, if any, should NASA take to increase the participation or involvement of academic librarians in transferring the results of NASA research to engineering students and faculty? (Please list)

2	[	4

16

₹	In performing your professional duties as an academic intermediary about how many times in this past year, have you contacted or been contacted by NASA personnel concerning transferring the results of NASA research?	nal duties as an academic in ted by NASA personnel con	nermediary about how n neeming transferring the	nany times in this results of NASA	past year, have research?	48. As an academic intermediary, what barriers, if any, hinder or keep you from "activety" transferring NASA produced knowledge to the engineering students and faculty at your institution? (Please list)	der or keep you from "actively" transferring NASA culty at your institution? (Please list)
	YOU contacted NASA	Times This PAST YEAR	æ			STUDENTS	FACULTY
	NASA contacted YOU						
41	These data will help as understand the interface between academic librarians as information intermediaries and engineering students and faculty as users of NASA produced knowledge.	and the interface between to	scademic librarians as oduced knowledge.	Information inter	rmediaries	3	3
\$	As an academic intermediary, how would you rate your knowledge of engineering students and facetay as your institution? (Circle number)	how would you rate your atty as your using as your institution? (C	knowledge of the techni ircle number)	the technical information needs of the	eds of the		
	STUDENTS			FACULTY		Finally, we would like to collect some background information that will be helpful with the analysis of the data.	sation that will be helpful with the analysis of the data.
	Extensive	Don't None Know	Extensive	None	Don't Know	49. Gender:	50. U.S. Citizen:
		۲				1 Female	1 Yes
	1 2 3 4	6 5	1 2	3 4 5	٠	2 Male	2 No
₹.	As an academic intermediary, how active are you in transferring NASA produced kno-vledge to the engineering stademts and figure lity at your institution? (Circle number)	, how active are you in tran- institution? (Circle number	uferning NASA producer)	d knowledge to the	e engineering	51. Years of professional library experience?	52. Years in your present position?
	STUDENTS	•	. Z	FACULTY		years of professional experience	years in present position
	Very V. Active Pas	Very Don't Passive Know	Very Active	Very Passive	Don't Know	53. Percent of your time devoted to acrospace information activities?	activities?
		٦	-	[  -		% of time	
	1 2 3 4	8	1 2	3 4 5	٥		
<b>4</b>	As an academic intermediary, what steps or actions, if any, do you take to "actively" is nafer NASA produced knowledge to the engineering stadents and faculty at your institution? (Circle all that apply)	i, what steps or actions, if at g students and faculty at yo	ny, do you take to "activ per institution? (Circle a	ely" ir snafer NAS ill that apply)	A produced	54. Education : 1 B. A. in	5 MBA
		8	STUDENTS	SACULTY		2 B. S. in	6 J. D.
	Xe Communication information	Yes	Š.	Y at No	•	3 MLS	7 Ph. D. in
	Interpreting data Other (specify)	_	1 72			4 Master's in	8 Other (specify)
<b>4</b>	Please cite at least one specific case or incident that demonstrates how your library made a difference to an R&D, faculty, or student project w	fic case or incident that dem se to an R&D, faculty, or stu	onstrates how NASA information ident project within the past year.	NASA information provided (or denied) by ithin the past year.	d (or denied) by	<ol> <li>Professional (national) membership (Circle all that apply)</li> <li>ALA</li> </ol>	~
						2 ASEE	society (specify)
	Would you be willing to identify the user, for a follow-up interview?	nify the user, for a follow-u	up interview? (Circle number) 2 No	mber)		3 ASIS 4 SLA	6 Not a member of any national library or information society
		11				81	OVER

OPTIONAL QUESTIONS

What suggestions can you offer for improving access by the academic community to the results of NASA produced knewledge?

What suggestions can you offer regarding the structure, location, purpose, content, length and necessity of a NASA STI users meeting that would be attended by information intermediaries from academia, industry, and government?

3. Is there mything else you would care to say regarding this research?

Mail to: Center for Survey Research 1622 East Third Street Indiana University Bloomington, IN 47465

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13. ABSTRACT (Maximum 200 words)  Phase 3 of a four part study was undertaken to investigate the use of scientific and technical information (STI) in the academic aerospace community. Phase 3 of this project used three questionnaires that were sent to three groups (i.e., faculty, librarians, and students) in the academic aerospace community. Specific attention was paid to the types of STI used and the methods in which academic users acquire STI. This report focuses on the responses of academic libraries. Demographic information on academic aerospace libraries is provided. Data regarding NASA interaction with academic aerospace libraries is also included as is the survey instrument.				
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